

What is Claimed is:

1. A conferencing server for establishing multi-party call conference services in a data network telephony system, comprising:
 - a session initiation protocol (SIP) signaling interface; and
 - a media conferencing module, the media conferencing module comprising:
 - a plurality of selectable media decoders;
 - a plurality of media stream queues selectively coupled to said plurality of media decoders;
 - a jitter correction processor, the jitter correction processor compensating arrival time jitter in the data stored in the media stream queues;
 - a mixer, the mixer receiving the jitter corrected data from each of the queues, generating an aggregate conferencing stream of all active participants, and generating individual participant conference streams for each active participant in the conference; and
 - a plurality of selectable media encoders, the selectable media encoders being selectively coupled to the individual participant conference streams in accordance with a protocol supported by the respective participant.
2. The conferencing server of claim 1, wherein the individual participant conference streams are formed by subtracting a corresponding active participant audio stream from the aggregate conferencing stream.
3. The conferencing server of claim 1, wherein the media conferencing module determines at least one media CODEC protocol supported by each conference participant and wherein the selectable media decoders are configured in accordance with said media CODEC protocols.

4. The conferencing server of claim 3, wherein the media CODEC protocols are determined in accordance with SIP INVITE request messages received from conference participants via the SIP signaling interface.
5. The conferencing server of claim 3, wherein the media conferencing module determines a minimum set of media CODEC protocols supported by the inactive participants in the conference, and wherein for each media CODEC protocol in the minimum set, at least one of said selectable media encoders is configured to encode the aggregate conferencing stream.
6. The conferencing server of claim 3, wherein the jitter correction processor takes the form of a dynamic play-out delay algorithm.
7. The conferencing server of claim 1, further comprising a SIP to H.323 protocol gateway interface operatively coupled to the media conferencing module.
8. The conferencing server of claim 1, further comprising a SIP to PSTN protocol gateway interface operatively coupled to the media conferencing module.
9. A method of conferencing a plurality of conference participant audio streams comprising:
 - identifying at least one media CODEC protocol for each conference participant;
 - decoding each audio stream in accordance with a corresponding identified CODEC protocol;
 - compensating each decoded audio stream for arrival time jitter;
 - mixing each of the audio streams into an aggregate audio stream;

for each active participant, subtracting that participant's audio stream from the aggregate audio stream to generate a corresponding participant conference stream;

encoding each participant conference stream in accordance with an identified CODEC protocol for the participant; and

delivering the encoded participant conference streams to the corresponding participants.

10. The method of conferencing according to claim 9, further comprising:

identifying the CODEC protocols supported by each inactive participant in the conference;

identifying a minimum set of CODEC protocol's for the inactive participant's in the conference;

for each CODEC protocol in the minimum set of CODEC protocols, encoding the aggregate audio stream in accordance with the selected protocol and distributing the encoded aggregate audio stream to those inactive participant's supporting the respective CODEC protocol.

11. The method of conferencing according to claim 10, wherein the steps of identifying CODEC protocols further comprise receiving a SIP INVITE request from each of the conference participants identifying those protocols supported by the conference participants.

12. The method of conferencing according to claim 9, wherein the step of identifying CODEC protocols further comprise receiving a SIP INVITE request from each of the conference participants identifying those protocols supported by the conference participants.

13. The method of conferencing according to claim 9, wherein the step of compensating for arrival time jitter further comprises the use of a dynamic play-out delay algorithm.

14. Computer readable media programmed to configure a computer to perform a method of conferencing a plurality of conference participant audio streams, the computer operation comprising:

identifying at least one media CODEC protocol for each conference participant;
decoding each audio stream in accordance with a corresponding identified
CODEC protocol;
compensating each decoded audio stream for arrival time jitter;
mixing each of the audio streams into an aggregate audio stream;
for each active participant, subtracting that participant's audio stream from the
aggregate audio stream to generate a corresponding participant conference stream;
encoding each participant conference stream in accordance with an identified
CODEC protocol for the participant; and
delivering the encoded participant conference streams to the corresponding
participants.

15. The computer readable media of claim 14 wherein the computer operation further comprises:

identifying the CODEC protocols supported by each inactive participant in the
conference;
identifying a minimum set of CODEC protocol's for the inactive participant's in
the conference;

for each CODEC protocol in the minimum set of CODEC protocols, encoding the aggregate audio stream in accordance with the selected protocol and distributing the encoded aggregate audio stream to those inactive participant's supporting the respective CODEC protocol.

16. The computer readable media of claim 15, wherein the steps of identifying CODEC protocols further comprise receiving a SIP INVITE request from each of the conference participants identifying those protocols supported by the conference participants.

17. The computer readable media according to claim 14, wherein the step of identifying CODEC protocols further comprises receiving a SIP INVITE request from each of the conference participants identifying those protocols supported by the conference participants.

18. The computer readable media according to claim 14, wherein the step of compensating for arrival time jitter further comprises the use of a dynamic play-out algorithm.